

Minutes

Discrete Positioning and Delivery Workflow (DPDW)

Conference Call

January 26, 2021

10:00am – 11:30am EST

DPDW Subgroup Chair:

Thomas Schwere, Varian Medical Systems
(thomas.schwere@varian.com)

IHERO Task Force Co-Chairs

Bruce Curran, MEng, FAAPM, FACMP, FACR
Bridget Koontz, MD

Mission Statement: *The American Society for Radiology Oncology (ASTRO) has formed a multi-society Task Force to undertake an initiative to promote the Integration of the Healthcare Enterprise (IHE) – Radiation Oncology (RO), fostering seamless connectivity and integration of radiotherapy equipment and the patient health information systems. The Task Force will include members from ASTRO, RSNA, American Association of Physicists in Medicine (AAPM), the American College of Radiology (ACR) and the Medical Imaging and Technology Alliance (MITA). In addition, members of the International community have also been invited to participate in IHE-RO. The IHE-RO Task Force, in close collaboration with radiotherapy product manufacturers, will develop appropriate integration profiles for radiation therapy and setup a demonstration of seamless communication among the full array of radiotherapy products.*

In Attendance:

Jill Moton (AAPM)
Gergely Parditka (Brainlab)
Bruce Rakes (Mevion)
Jon Treffert (RaySearch)
Harold Beunk (ICT)
David Wikler (IBA)
Istvan Matyas (Siemens Healthineers)
Sanjay Bari (Elekta)
Bob Pekarek (Accuray)
Ondrej Sevela (Advanced Oncotherapy)

Thomas Schwere (Varian)

1 Call to Order

The meeting was started at 10:00am EST.

2 General

2.1. TDW Session Processing/Validation Use Case

Decision: This use case is tabled for the moment. The group is focusing on the offline recording use case first.

2.2. Action Items from Last Call

The action items have been incorporated into the working version 0.2 of TDOR profile (not yet uploaded to the wiki).

2.3. New Time Slot for DPDW Committee Calls

Jon requested if we could agree on a different timeslot for future meetings as the current timeslot overlaps the IHE Domain Committee meeting.

The group agreed on the 3rd Tuesday every month from 10am-11:30am EST (starting on March 16th, 2021).

2.4. Revision of the DPDW Model

Jon requested to revise the current DPDW model to come away from the claim of controlling/managing the full treatment session towards a model of supporting single (more or less) independent activities only (like image acquisition, patient position correction, etc.).

Jon presented new vendors showing up mainly in the proton therapy area providing image acquisition as well as patient positioning functionality. Furthermore, there is also treatment session manager systems showing up which are responsible for managing and orchestrating the whole treatment session (including real-time adaptive workflows). All these vendors are interested in a common interface for connecting their systems into the overall treatment delivery device.

DPDW was started having DICOM 2nd gen in mind. The group discussed how the interface may look like in the absence of DICOM 2nd gen. It's mainly about commanding such a device what activity (and how) to perform. This information is packed into so-called instructions which may or may not be based on DICOM. The current state of the DPDW profile mainly provides the framework for the workflow, i.e. how to notify the actors about performing a task which is modeled by a DICOM Unified Procedure Step.

Jon will draft some of the main use case scenarios for those new systems, including an adaptive scenario as well. The group will then work on the information that needs to be passed around between the different actors (orchestrated by the TSM) and what data model to use for the instruction payload (DICOM 1st gen, DICOM 2nd gen, JSON, ...).

3 TDW Offline Recording

3.1. Separate UPS for the Recording?

- The group discussed three options:
 - A. Do the (deferred) recording on the original treatment UPS, e.g. by simply playing back the transactions (N-SET, N, ACTION) upon recovery of the treatment records. This requires to keep the UPS in IN PROGRESS state and notify the TMS that delivery was performed but recording will be deferred (this may be done for example by using the Performed Processing Parameters Sequence).
 - B. Do the (deferred) recording on a new recording UPS created by the TDD/performed by the TMS upon recovery of the treatment records. This is in line with Rev 0.1 of the TDOR profile (available on the wiki).
 - C. Same as option B, but recording UPS is created by the TMS and queried/performed by the TDD.

Decision

- The group agreed on Option B.
Option A heavily overloads the state machine of the UPS.
Since the recovery is actually done on the TDD, it's also natural to create the UPS on that device. Furthermore, it's also not clear what Scheduled Start Date Time to set when using option C.

4 Adjournment

The meeting was adjourned at 11:30am EST.

Appendix A: Administration and Process Information

Documents are published at the following locations. If you have problems in accessing the document, please contact the Chair (thomas.schwere@varian.com).

Process of Authoring:

Steps:

1. Download a local copy of the document from locations below
2. Open this copy and remove all change bars
3. Ensure, that Changes Bars are switched on
- 4. Make your changes**
5. Provide the updated version to the Chair

Location of Documents:

DPDW Subgroup Minutes

http://wiki.ihe.net/index.php?title=RO_DPDW_WorkingGroup

DPDW Profile

The DPDW Profile is an IHE-RO document.

The current version is available in the IHE-RO Org Wiki:

<http://www.ihe-ro.org/>

Please find the current document under this page:

<http://www.ihe-ro.org/doku.php?id=doc:profiles>

Supp 160

DICOM Supplement 160 (Patient Positioning and Workflow) in s DICOM WG-07 document.

The current version is available at the DICOM ftp server:

<ftp://d9->

[workgrps:goimagego@medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/WG07/Sup/Sup160_PatientPositioningAndWorkflow](ftp://d9-workgrps:goimagego@medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/WG07/Sup/Sup160_PatientPositioningAndWorkflow)

Mailing List:

The mailing list for the DPDW subgroup is:

2021.iherodpdw@aapm.org